Region 2
RCRA Corrective Action
Site Fact Sheet

LAST UPDATE: January 4, 2000

COMMONWEALTH OIL AND REFINING COMPANY, INC. (CORCO)

EPA ID#: PRD091017228
FACILITY LOCATION: RD 127, BO. TALLABOA, PEÑUELAS, PUERTO RICO
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Other (Former) Names of Site:

None

Site Description:

The facility is located on the south coast of Puerto Rico, on State Road 127 in the Municipio (town) de Peñuelas, approximately 7 miles west of the city of Ponce. The facility was formerly a large petroleum refinery and petrochemical manufacturing complex. The northern part of the 800 acre site, which contains most of the facility's numerous storage tanks, is hilly. The southern part, which borders the Caribbean Sea, consists of filled land that is relatively flat. This is the location of the former hazardous waste treatment units. The facility is adjacent to a number of mostly defunct chemical and petroleum refining facilities. During many of the years of its operation as a refinery, CORCO was involved in joint business ventures with a variety of these facilities. Since 1982, CORCO has largely been inactive as a refinery, and now functions as a terminal for the marine transportation and land-based storage of crude oil and petroleum products. The remaining regional land use is residential and agricultural.

Site Responsibility:

Clean-up at this site is being addressed by the U.S. Environmental Protection Agency (EPA), under authority of the of the Resource Conservation and Recovery Act (RCRA).

Government Performance and Results Act (GPRA) Government Performance and Results Act (GPRA) Status:

In 1993, Congress passed the Government Performance and Results Act (GPRA) which mandated that all Federal agencies develop strategic plans, establish annual performance plans (which set objective, quantifiable, and measurable annual targets and goals), and produce annual program performance reports that compare actual performance to the annual goals. The goals, as far as RCRA facilities are concerned, are that by 2005, the States and EPA will verify and document that 95 percent of the 1715 high priority RCRA facilities identified nationwide will have "current human exposures under control," and that 70 percent of these facilities will have "migration of contaminated ground-water under control." CORCO is one of these facilities.

Threats and Contaminants:

The major threat is the result of the unintended release of petroleum and petroleum products into the soil beneath the facility and to the ground water within that soil. The subsurface plume of petroleum floats on top of the regional ground water (the undissolved phase) and is also partially dissolved within the ground water (the dissolved phase). Because of its relatively high salt content, the ground water is not currently used for drinking. The subsurface plume of petroleum and its dissolved phase does however represent a potential threat to the surface water of the Caribbean Sea and to its nearshore ecosystem. In addition, some ground water is reportedly used for agriculture and other purposes from unregistered private wells. Contaminants of concern within the petroleum are benzene, toluene, ethyl benzene, and xylene.

During the facility's active life as a refinery, it operated seven solid waste management units for the treatment, storage, and disposal of hazardous waste. These units consist of five surface impoundments (lagoons) that were part of the facility's wastewater treatment plant, and two tanks that were used to store contaminated oil. These units have lost their interim permits to manage hazardous waste. CORCO is required to investigate hazardous waste remaining in these units, determine whether there has been any release of hazardous waste constituents to the environment, and close these units by insuring that the environment is adequately protected from exposure to any of their hazardous constituents. These units contain the following additional hazardous constituents: 2-methylnaphthalene, naphthalene, benzo(a)anthracene, chromium, lead, nickel, and zinc.

Cleanup Approach

Cleanup Status/Corrective Action:

The site is being addressed by CORCO, under EPA oversight, in two measures: Interim Corrective Measures and long-term corrective measures directed at cleanup of the entire site.

Response Action Status:

Interim Corrective Measures: Since 1994, recovery of sub-surface petroleum has been conducted under an effort termed the "MIS Area Product Recovery System," for the purpose of containing the petroleum's further migration. It is estimated that 3.3 million gallons of petroleum have been recovered as a result of the active pumping of recovery wells, and that this has served to contain the subsurface petroleum on the

facility's property.

Entire Site: The extent of subsurface petroleum migration is being monitored by a series of 44 wells. The goal of the remediation plan for this subsurface petroleum is to further determine the extent of additional detected subsurface petroleum, remove the undissolved phase from the soil so that it will no longer serve as a source of contamination to the ground water, and remove the dissolved phase from the site's ground water. This will be done though the active pumping of the undissolved phase, and the pumping and treating of the dissolved phase.

In addition, ground-water monitoring has been conducted at the seven units formerly used for the treatment, storage, and disposal of hazardous waste. These wastes were managed in these units as part of routine refinery operations in the past. The units consist of five surface impoundments (lagoons) that were part of the facility's wastewater treatment plant, and two tanks that were used to store contaminated oil. CORCO has proposed removal and treatment for the residual sludge and contaminated soil from one of the surface impoundments, the Eastern Oil Lagoon, and the oily sludge stored in the two tanks. Most of the oily component of the sludges will be physically separated out. The remaining material will be subject to biological degradation within a land treatment unit (essentially a tilled open field within an industrial setting). The wastewater associated with the treatment process will ultimately either be reused within the system, or discharged to marine waters after being treated as per permit requirements regulated by the National Pollution Discharge Elimination System (NPDES). The residual soil medium remaining after treatment will be chemically and physically stabilized and disposed in an on-site landfill. These treatment activities will form what is termed a Corrective Action Management Unit (CAMU). The feasibility of this proposal has been confirmed in a series of Corrective Measure Studies. The residual sludge and sediment within the other four surface impoundments, which has been determined not to be a potential source of ground-water contamination, will be physically and chemically stabilized, will remain in-place, and will serves as the foundation for the components of the CAMU.

Cleanup Progress:

It is estimated that 3.3 million gallons of petroleum have been recovered through the active pumping recovery wells. This has served to contain the subsurface petroleum on the facility's property. The plan for site-wide corrective action for the subsurface petroleum has been technically approved but has not been implemented. The plans for closure of the Eastern Oil Lagoon, which includes a corrective action component, has been technically approved but not implemented.

Permit Status

Permit Status:

CORCO has lost its interim permit to operate the seven regulated units for the management of hazardous waste. The closure of these units, as well as the associated corrective action activities, has been enfolded into a permit application for the operation of three new hazardous waste management units. These units would manage hazardous waste that would be generated in the future as part of CORCO's proposed routine operations. The permit application is substantively complete. However, CORCO has recently made a significant revision to its proposal for management of closure of the seven regulated units, and corrective action. The new proposal, which is being reviewed by EPA, no longer includes the need for a

permit.

Site Repository:

Copies of the Draft Permit, supporting technical documents, and associated closure and corrective action correspondence are available for public review at the following locations: U.S. Environmental Protection Agency - Region 2, 290 Broadway, New York, New York, 10007-1866 - 15th floor file room, telephone (212) 637-4166; U.S. Environmental Protection Agency, Caribbean Environmental Protection Division, Centro Europa Building, Suite 417, 1492 Ponce De Leon Avenue, Santurce, Puerto Rico, 00907-4127, telephone (787) 729-6951; and Puerto Rico Environmental Quality Board, National Plaza Building, 431 Ponce De Leon Avenue, Hato Rey, Puerto Rico 00917, telephone (767) 8181. The inspection of some of these documents may require a formal request under the United States Freedom of Information Act (FOIA).